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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,397	11/14/2001	Charlotte F. Kinnison	Cryogen-1 (Straub-1)	4955
7590 11/10/2003 Jeffrey J. Hohenshell AMS Research Corporation 10700 Bren Road West Minnetonka, MN 55343			EXAMINER TADESSE, YEWEBDAR T	
			ART UNIT 1734	PAPER NUMBER

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/993,397	KINNISON ET AL.	
	Examiner	Art Unit	
	Yewebdar T Tadesse	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-15 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 5 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of group I in the response filed on May 08/2003 is acknowledged.

Claim interpretation

2. In claim 11, applicants claim a thermal conductive medium storage device and a pump coupled to the thermal conductive medium storage device and a thermal conductive medium applicator tip coupled to the pump. In examining the instant application, the limitation for a thermal conductive medium considered to be claimed feature and not intended uses of the apparatus. That is, the examiner considered the claimed apparatus to include the materials –a thermal conductive medium.

Specification

3. Claim1 is objected to because of the following informalities: in line 10, the word conductive is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Prittinen et al (US 5,141,774). Prittinen et al discloses (see diagrammatic view of Fig 2 and Figs 3-5) an apparatus for applying fluid to an internal cavities of objects, the apparatus comprising: a tubular applicator tip (probe 170) including a nozzle (opening 176) positioned in a sidewall of the tubular applicator tip; a pump (75) having input adapted for coupling to a source of fluid and an output coupled to the tubular applicator tip (probe 170); and a control module (computer 50) for controlling the pump and thereby the amount of medium applied to the nut by the tubular applicator tip (probe 170). Prittinen et al's device is capable of applying a thermal conductive medium. As to claim 2, in Prittinen et al the applicator tip (probe 170) has a closed tip end (see Fig 5).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prittinen et al (US 5,141,774) in view of Stroobants (US 3,977,358). Prittinen's device provides means for positioning the cavity object to be coated (see column 4, lines 19-33). However, Prittinen lacks teaching a contact switch coupled to the control circuit being positioned to come in contact with the object when properly positioned over the applicator or (probe). Using a contact switch coupled to a controller for determining the positioning of the substrate relative to the applicator or moving device is well known in the art to appropriately control the desired action; for instance Stroobants discloses (see Fig 1 and column 6, lines 15-54) a contact switch (148) engaging the cans fed to the guide means wherein the switch is in communication with a control means in order to provide appropriate signals. It would have been obvious at the time the invention was made to include a contact switch in communication with a computer 50 of Prittinen to move the positioning means as desired. As to claim 4, Prittinen discloses (see Figs 3 and 5) shaft section (172) coupling the applicator tip (probe 170) to the pump (75).

9. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prittinen et al (US 5,141,774), Stroobants (US 3,977,358) as applied to claim 3 and further in view of Sojka (US 4,161,198). Prittinen et al discloses (see column 5, lines 6-12 and column 6, lines 43-47) stepping motor 82 programmable through digital

computer 50 to control vertical travel of the applicator tip (probe 170 with the shaft section 172) and a computer controlling the metering pump rate. However, Prittinen et al lacks teaching a control module including a timing circuit for activating and deactivating the pump and the motor following the pump activation and deactivation. Sojka discloses (see column 2, lines 61-64) pump driven by a motor, which is controlled by a switch (activating or deactivating) and timer circuit. It would have been obvious at the time the invention was made to include a control module including a timing circuit including activating and deactivating means in Prittinen et al as modified to run the pump for a preselected time as taught by Sojka.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prittinen et al (US 5,141,774) in view of Wells et al (US 5,038,708). Prittinen et al discloses applicator shaft (172) attached to an open shaft (hollow cavity 180), however a plurality of nozzles located along a line extending in the axial direction between the closed tip end and the open end is not taught in Prittinen et al. Wells et al discloses (see Figs 3-4) an apparatus for coating the internal surfaces of tubular structure wherein the spray head 44 having a plurality of openings located along a line extending in the axial direction between the closed tip and open end. It would have been obvious at the time the invention was made to include a plurality of nozzles located along a line extending in the axial direction between the closed tip end and the open end in Prittinen et al to maximize the coverage of coating of the cavities by providing multiple coat-discharging openings in treating larger size cavities.

Allowable Subject Matter

11. Claims 11-15 are allowed.

12. Claims 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: as to claim 5, Gellos (US 4,136,560) discloses (see claim 25 and column 22, lines 17-21 and Fig 29) a shaft (514) including a bleeder hole (528) to vent the air for a pressure gauge. Prior art of record does not disclose or suggest an apparatus of applying a thermal conductive medium to an inside portion of a sheath, comprising, among others, a tubular applicator tip including a nozzle positioned in a side wall of the tubular applicator tip, wherein the nozzle has a diameter in the range extending from and including 0.14" to and including 0.145" and wherein the applicator shaft including a bleeder hole having a diameter one third or less the diameter of the nozzle. As to claim 10, Mitchen (US 4,844,098) discloses a mushroom shaped deflector (26a) for the probe tip covered by the cup-shaped member 24. Prior art of record does not disclose or suggest an apparatus of applying a thermal conductive medium to an inside portion of a sheath, comprising, among others, a tubular applicator tip having plurality of nozzles located along a line extending in the axial direction between the closed tip and the open

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end, and a mushroom shaped cap portion at the closed tip end. As to claims 11-15, Prior art of record does not disclose or suggest an apparatus of applying a thermal conductive medium to an inside portion of a sheath, comprising, among others, a thermal conductive medium storage device and a pump coupled to the thermal conductive medium storage device and a thermal conductive medium applicator tip coupled to the pump.

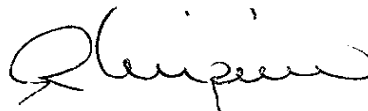
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T Tadesse whose telephone number is (703) 305-3539. The examiner can normally be reached on Monday-Friday 8:00 AM-4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Yewebdar T. Tadesse

YTT



RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700